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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,569	06/19/2006	Takahiro Baba	M1071.1955	7871

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EXAMINER

GANNON, LEVI

ART UNIT	PAPER NUMBER
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2817

MAIL DATE	DELIVERY MODE
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10/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,569	Applicant(s) BABA ET AL.	
	Examiner Levi Gannon	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 2-4, 7, and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Non-Final rejection is in response to the Preliminary Amendment filed June 19, 2006. The office action dated 7/19/07 was directed toward the original claims filed 12/27/05. Examiner apologizes for mailing the office action directed to original claims and not the amended claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al (hereinafter Sakamoto) (US Patent 6,204,739) in view of Clark (US Patent 4,553,097).

Regarding claim 1, Sakamoto discloses an oscillator device (figure 1) comprising an oscillation circuit substrate (6); an oscillation circuit (11-25) disposed on the oscillation circuit substrate (6) to oscillate a signal (output at 24) having a predetermined oscillating frequency; and a dielectric resonator (in opening 4) for setting the oscillating frequency, the dielectric resonator including a dielectric substrate (1) mounted on a surface (in this case bottom of oscillation circuit substrate 6) of the oscillation circuit substrate, a resonator (in opening 4) having a first electrode (2) disposed on a first

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surface (top of 1) of the dielectric substrate and a second electrode (3) disposed on a second surface (bottom of 1) of the dielectric substrate (1), and an excitation electrode (11) disposed on the dielectric substrate (1), the excitation electrode (coupling line 11) being connected to the oscillation circuit (11-25) and being coupled with the resonator (in opening 4).

Sakamoto does not teach the resonator being a Tm_{010} mode resonator or at least one of the electrodes (2, 3) being circular.

As would have been recognized by one of ordinary skill in the art, making the electrodes (2, 3) of Sakamoto the same shape and size as the opening forming the resonator, i.e. circular, instead of covering the entire dielectric substrate (1), would reduce the amount of material needed and therefore would reduce production costs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the electrodes of Sakamoto with electrodes that are circular because such a modification would reduce the production costs for the oscillation device of Sakamoto.

Also, Clark teaches an advantage to using an oscillating device in the Tm_{010} mode being that the electromagnetic signal does not readily cut off or greatly attenuate over wide frequency ranges.

It would have been obvious to one of ordinary skill in the art at time of the invention to replace the resonator of Sakamoto with a resonator in the Tm_{010} mode because such a modification would provide the benefit of producing an electromagnetic signal that does not readily cut off or greatly attenuate over a wide frequency range.

As for claim 5, Sakamoto teaches a frequency control circuit (comprising at least varactor 16) for controlling the oscillating frequency, (function of varactor in oscillator circuits) the frequency control circuit being disposed on the oscillation circuit substrate (6), and a second excitation electrode (coupling line 12) disposed on the dielectric substrate (1), the second excitation electrode coupled with the resonator (in opening 4) and connected to the frequency control circuit (16).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto in view of Clark further in view of Iio (US Patent 6,414,639).

In terms of claim 6, Sakamoto teaches the oscillator device of claim 1 but does not teach the oscillator device being used in a transmission and reception device.

However, it is well-known to those of ordinary skill in the art to use oscillator devices in transceivers. Iio teaches an example of using an oscillator device (40) in a transmission/reception device (figure 8), i.e. transceiver.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to place the oscillator device of Sakamoto into a transmission and reception device because such a modification would have been making use of a well known application of oscillator devices.

Allowable Subject Matter

Claims 2-4, 7, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The best art of record, Sakamoto, does not teach or fairly suggest a land and through-hole with their respective connections, as set forth in claim 2, or the particular configuration of the electrode of the resonator and front side of the oscillation circuit substrate, as set forth in claim 4.

Conclusion

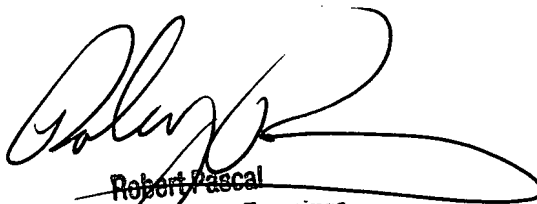
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 6,232,854, and 6,163,688 teach similar oscillator devices with dielectric resonators coupled to oscillator circuits on oscillation substrates.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Levi Gannon whose telephone number is (571) 272-7971. The examiner can normally be reached on Monday-Friday 9:30AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LG



Robert Pascal
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Technology Center 2800